

Abstract of the Disclosure

Programmable fuses for integrated circuits are provided. The fuses may be based on polysilicon or crystalline silicon fuse links coated with silicide or 5 other conductive thin films. Fuses may be formed on silicon-on-insulator (SOI) substrates. A fuse may be blown by applying a programming current to the fuse link. The silicon or polysilicon in the fuses may be provided with a p-n junction. When a fuse is 10 programmed, the silicide or other conductive film forms an open circuit. This forces current through the underlying p-n junction. Unlike conventional silicided polysilicon fuses, fuses with p-n junctions change their qualitative behavior when programmed. Unprogrammed 15 fuses behave like resistors, while programmed fuses behave like diodes. The presence of the p-n junction allows sensing circuitry to determine in a highly accurate qualitative fashion whether a given fuse has been programmed.